

## Family-group names in fishes: grammatical nicety or pragmatism? A plea for stability

Alwyne Wheeler

*Epping Forest Conservation Centre, High Beach, Loughton, Essex IG10 4AF, U.K.*

Although family names are essential to the elaboration of a hierarchical system of classification such as is required by systematists, they serve other important functions. Because family groupings provide a more readily understood unit of classification to non-systematists than those above or below family level they are widely used, giving a group name of manageable comprehension. In addition, retrieval systems, whether in current awareness services or library indexes and in both manual and computerized forms, and biological recording systems depend heavily on groupings at family level. This level is the base line on which most of these systems operate. Their importance cannot be overestimated, nor can the need to stabilize usage in acceptably clear forms.

Family names have an important role in formal communication in that papers of a scientific nature usually include within the title or abstract both family and ordinal names (a practice on which abstracting services and retrieval systems depend). Both informal writing and oral communication also rely heavily on family names and their use provides a framework within which the reader or listener can relate the information to known parameters. Biologists who are not primarily taxonomists, for example fishery workers, environmental archaeologists, and ecologists, employ family names in both formal and informal contexts. Because family names usually have a greater stability once properly established they occupy an important role in communication within the biological sciences. It is therefore desirable that they are stable in form and in usage; as an example, this was recognized by the Commission 32 years ago when (in Opinion 500) the name PIERIDAE was accepted for the 'White' butterflies, rather than the grammatically correct PIERIDIDAE.

In fishes, after a long period of relative uniformity of usage, uncertainty about the form of some family names has been created by Steyskal's (1980) claim that several widely used family names are not grammatically correct in form. As a result some ichthyologists have adopted the form recommended by Steyskal, other have deliberately ignored his recommendations. Some of the former, after many years of using the 'incorrect' form, are now advocating the 'correct' usage in non-taxonomic fields with the zeal of the newly-converted, which causes confusion.

Two cases in which maintenance of a widely used family name of 'incorrect' form has been defended by an authority in the group — COBITIDAE rather than COBITIDIDAE, and LIPARIDAE rather than LIPARIDIDAE — have recently come before the Commission (BZN 43: 360–362, 45: 178–179; and BZN 45: 130–131). Others will undoubtedly follow in time.

Other examples involve groups of fishes which are frequently referred to in the literature for various reasons. Thus, the anchovy family name ENGRAULIDAE (or ENGRAULIDIDAE, as 'corrected' by Steyskal) for a group of very important commercial fishes is frequently used in fisheries literature. The sleeper family ELEOTRIDAE (or

ELEOTRIDIDAE) is extremely speciose in tropical shallow seas and freshwaters and features frequently in literature on coastal ecology, as does the family of butterfishes, PHOLIDAE (or PHOLIDIDAE) in northern temperate and Arctic seas. Both the sting ray and the eagle ray families, DASYATIDAE and MYLIOBATIDAE (or DASYATIDIDAE and MYLIOBATIDIDAE) have minimal importance in fisheries but feature in the medical literature on account of the toxins associated with envenomed tail spines. Other fishes feature in the literature on account of their interesting symbiotic behaviour or evolutionary interest, e.g. the shark sucker family ECHENEIDAE (or ECHENEIDIDAE) and the pearl fishes CARAPIDAE (or CARAPODIDAE), while the Australian lung-fish, *Neoceratodus forsteri*, is usually referred by authors to the family CERATODIDAE (but 'should' be CERATODONTIDAE).

It will be apparent that many of the above examples of family names in their grammatically correct forms (in parentheses) are more complicated and thus more liable to error in transcription, but, more importantly, become almost unpronounceable if spoken either in formal usage or in adjectival form. This is a serious disadvantage when these names are in widespread use by non-taxonomists.

Rather than adopting the grammatically correct forms of family names (vide Skeyskal, 1980) without consideration of the consequences, it is preferable to analyse past usage of these names. In another nomenclatural context Stearn (1985) refers to usage resulting from 'the consent of the learned' which he defines as fairly consistent usage by nineteenth-century botanists of standing. In the present case involving family names which were rarely stabilized in the nineteenth century, I propose citing authors of authoritative world surveys of recent fishes with the addition of the list of names of North American fishes (Robins et al., 1980) which is a critical work compiled by a committee of specialists. These authorities are Günther (1860, 1861, 1868, 1870), Jordan (1923), Berg (1940), Norman (1966), Greenwood et al. (1966), Lindberg (1971) and Nelson (1976). (Norman's list is confined to marine fishes. The later edition of Nelson (1984) followed Steyskal's paper and is not quoted.) I have selected these authors as forming 'the consent of the learned' because in listing recognized families they have had to make a critical choice in spelling the name.

The ten family names cited above (including the two already referred to the Commission) are listed below in alphabetical order with an indication of the form in which they were employed by these authors. Where one of the authors is not cited he made no reference to the family, or used another family name.

CARAPIDAE — Jordan (1923), Norman (1966), Greenwood et al. (1966), Lindberg (1971), Nelson (1976), Robins et al. (1980). CARAPODIDAE — Steyskal (1980).

CERATODIDAE — Berg (1940), Lindberg (1971), Nelson (1976). CERATODONTIDAE — Steyskal (1980), also used by Jordan (1923).

COBITIDAE — Jordan (1923), Berg (1940), Greenwood et al. (1966), Lindberg (1971), Nelson (1976), Robins et al. (1980). COBITIDIDAE — Steyskal (1980), used in the form COBITIDINA by Günther (1868). COBITIDAE was ruled to be the correct spelling in Opinion 1500 (June 1988, BZN 45: 178–179).

DASYATIDAE — Jordan (1923), Norman (1966), Lindberg (1971), Nelson (1976), Robins et al. (1980). DASYATIDIDAE — Steyskal (1980).

ECHENEIDAE — Jordan (1923), Berg (1940), Greenwood et al. (1966), Lindberg (1971), Nelson (1976), Robins et al. (1980). ECHENEIDIDAE — Steyskal (1980), also used by Norman (1966).

ELEOTRIDAE — Jordan (1923), Berg (1940), Norman (1966), Greenwood et al. (1966), Lindberg (1971), Nelson (1976), Robins et al. (1980). ELEOTRIDIDAE — Steyskal (1980). ENGRAULIDAE — Jordan (1923), Berg (1940), Greenwood et al. (1966) in synonymy, Norman (1966, as ENGRAULINAE), Lindberg (1971), Nelson (1976), Robins et al. (1980). Used in the form ENGRAULINA by Günther (1868). ENGRAULIDIDAE — Steyskal (1980). LIPARIDAE — Jordan (1923), Greenwood et al. (1966) in synonymy, Lindberg (1971). Used in the form LIPARIDINA by Günther (1861). LIPARIDIDAE — Steyskal (1980). MYLIOBATIDAE — Günther (1870), Jordan (1923), Berg (1940), Norman (1966), Lindberg (1971), Nelson (1976), Robins et al. (1980). MYLIOBATIDIDAE — Steyskal (1980). PHOLIDAE — Jordan (1923), Berg (1940), Robins et al. (1980). PHOLIDIDAE — Steyskal (1980), as used by Norman (1966), Greenwood et al. (1966), Lindberg (1971), Nelson (1976).

It can be seen from this that in most cases these authors have employed what are said to be 'incorrect' names and as these are works of reference, widely cited when current, the usage of all (except for PHOLIDAE) is heavily in favour of these names.

Steyskal's proposals were critically reviewed by Robins et al. (1980) in their listing of North American fishes and the majority were rejected in their list. In the introduction to their check-list they 'deplored' the imposition of allegedly correct endings to some family names overturning well established and familiar names. Kottelat (1984, p. 227), Cocks (BZN 45: 179), Wheeler (BZN 45:292) and Mayr (BZN 46: 45) have opposed changes in COBITIDAE and/or LIPARIDAE on the grounds of supposed correctness of grammar. These comments reinforce the proposal relating to Article 29b(i) in the Minutes of the Section of Zoological Nomenclature, IUBS Canberra (October 1988, BZN 46: 16) that in the construction of family-group names in certain circumstances the stem should be elided so that the name had the form -IDAE rather than -IDIDAE. This note concluded that ichthyologists would favour such a change.

The confusion caused by Steyskal's proposals could be resolved by application to the Commission for rulings on each name, as has been done for COBITIDAE and LIPARIDAE. However, this would be a time-consuming business and not cost-effective for either ichthyologists or the staff of the Commission, and the lapse of time while cases were prepared, amended and published and before a ruling could be given would cause a great deal of uncertainty in use. The decision as to which, if any, of Steyskal's proposed amendments to 71 currently used family-group names could be adopted without offending accepted usage (and particularly without producing infelicitous adjectival nomenclature) cannot be undertaken piecemeal and calls for the urgent establishment of an international committee of specialists to advise on fish nomenclature.

## References

- Berg, L.S. 1947. *Classification of fishes both recent and fossil*. 517 pp. Edwards, Ann Arbor.
- Greenwood, P.H., Rosen, D.R., Weitzman, S.H. & Myers, G.S. 1966. Phyletic studies of Teleostean fishes, with a provisional classification of living forms. *Bulletin of the American Museum of Natural History*, **131**(4): 339–456.
- Günther, A. 1860. *Catalogue of the Acanthopterygian Fishes in the Collection of the British Museum*. Vol. 2. 548 pp. British Museum, London.
- Günther, A. 1861. *Catalogue of the Acanthopterygian Fishes in the Collection of the British Museum*. Vol. 3. 586 pp. British Museum, London.

- Günther, A. 1868. *Catalogue of the Fishes in the British Museum*. Vol. 7. 512 pp. British Museum, London.
- Günther, A. 1870. *Catalogue of the Fishes in the British Museum*. Vol. 8. 549 pp. British Museum, London.
- Jordan, D.S. 1923 (1963). *The genera of Fishes and Classification of Fishes*. (Reprinted edition). 800 pp. Stanford University Press, Stanford.
- Kottelat, M. 1984. Revision of the Indonesian and Malaysian loaches of the subfamily Noemacheilinae. *Japanese Journal of Ichthyology*, **31**: 225–260.
- Lindberg, G.U. 1971. *Fishes of the World. A key to Families and a checklist*. 545 pp. [Israel Programme for Scientific Translations], New York.
- Nelson, J.S. 1976. *Fishes of the World*. 417 pp. Wiley, New York.
- Nelson, J.S. 1984. *Fishes of the World*. (Second edition). 523 pp. Wiley, New York.
- Norman, J.R. 1966. *Draft Synopsis of the Orders, Families and Genera of Recent Fishes and Fish-like Vertebrates*. 649 pp. British Museum (Natural History), London.
- Robins, C.R., Bailey, R.M., Bond, C.E., Brooker, J.R., Lachner, E.A., Lea, R.N. & Scott, W.B. 1980. A list of common and scientific names of fishes from the United States and Canada. *Special Publication American Fisheries Society*, No. 12. 174 pp.
- Stearn, W.T. 1985. *Hookerianus* or *hookeranus*? Notes on the ending -*erianus* in plant names. *The Garden*, **110**(10): 463–465.
- Steyskal, G.C. 1980. The grammar of family-group names as exemplified by those of fishes. *Proceedings of the Biological Society of Washington*, **93**(1): 168–177.

[A comment on this Article appears in BZN 47: 138]